

CLAIMS

What is claimed is:

1. A method, comprising:
receiving a print job that requests to print a set of electronic document pages that are available from a communication network;
breaking up the print job into a plurality of batches each having a plurality of electronic document pages that together comprise the set of electronic document pages;
applying stamps to electronic document pages of each batch; and
separately sending each batch having stamps applied to its electronic document pages to a client terminal to print, while electronic document pages of other batches are having stamps applied to them.
2. The method of claim 1, further comprising logging print job status information as electronic document pages of each batch are stamped and sent to the client terminal.
3. The method of claim 2, further comprising if an interruption occurs during printout of electronic document pages of a batch:
checking the logged print job status information to determine which batch was last successfully printed; and
re-starting the print job at a batch subsequent to the batch that was last successfully printed, instead of re-starting the print job from its beginning first batch.
4. The method of claim 1, further comprising:
receiving a poll from the client terminal that requests transmission of electronic document pages that have been stamped;

sending the requested stamped electronic document pages to the client terminal, the requested stamped electronic document pages sent to the client terminal comprising less than a complete batch.

5. The method of claim 1, further comprising:
receiving a download request for another set of electronic document pages;

breaking up the download request into a plurality of batches each having a plurality of electronic document pages that together comprise the another set of electronic document pages;

applying stamps to these electronic document pages of each batch; and
separately sending each of these batches having stamps applied to its electronic document pages to the client terminal, while electronic document pages of other batches are having stamps applied to them.

6. The method of claim 5 wherein receiving the download request comprises receiving a request to store the requested set of electronic document pages in a storage unit.

7. The method of claim 1, further comprising:
determining whether a printer executable component to manage flow of the received stamped electronic document pages to a print spooler is present at the client terminal;

if the printer executable component is determined to not be present, downloading and installing the printer executable component in the client terminal; and
launching the printer executable component if a print job is generated.

8. The method of claim 1, further comprising:

storing print job data, including template information usable for applying the stamps to the electronic document pages, at a first server remote from the client terminal;

if the print job is generated, providing at least some of the print job data to the client terminal;

at a second server, receiving the print job data from the client terminal and obtaining template information corresponding to the print job data from the first server.

9. The method of claim 1, further comprising making a temporary copy of the each electronic document page, wherein applying stamps to electronic document pages of each batch includes applying stamps to the temporary copies.

10. The method of claim 1, further comprising generating stamping statistics indicative of either one or both of which electronic document pages have been stamped and an amount of electronic document pages that have been stamped.

11. The method of claim 1, further comprising printing the stamped electronic document pages asynchronously from other applications running on the client terminal.

12. An article of manufacture usable in a communication network, the article of manufacture comprising:

a machine-readable medium having instructions stored thereon to:
process a download request for a set of electronic document pages;
reduce the download request into a plurality of batches each having a plurality of electronic document pages that together comprise the set of electronic document pages;
apply stamps to the electronic document pages of each batch; and

separately send each batch having stamps applied to its electronic document pages to a client terminal communicatively coupled to the communication network, while electronic document pages of other batches are having stamps applied to them.

13. The article of manufacture of claim 12 wherein the instructions to process the download request include instructions to process a print job.

14. The article of manufacture of claim 13 wherein the machine-readable medium further includes instructions stored thereon to log print job status information as electronic document pages of each batch are stamped and sent to the client terminal.

15. The article of manufacture of claim 14 wherein the machine-readable medium further includes instructions stored thereon to:

if an interruption occurs during printout of electronic document pages of a batch, check the logged print job status information to determine which batch was last successfully printed; and

re-start the print job at a batch subsequent to the batch that was last successfully printed, instead of re-starting the print job from its beginning first batch.

16. The article of manufacture of claim 12 wherein the machine-readable medium further includes instructions stored thereon to:

detect a poll from the client terminal that requests transmission of electronic document pages that have been stamped;

send the requested stamped electronic document pages to the client terminal, the requested stamped electronic document pages sent to the client terminal comprising less than a complete batch.

17. A system, comprising:

a printer executable component to control download of remote electronic files to a printer;

a server communicatively coupled to the printer executable component to store print job data; and

at least one stamping service in communication with both the server and the printer executable component, wherein if the printer executable component is launched to initiate a print job, the printer executable component is coupled to obtain at least some of the stored print job data from the server and to provide this obtained print job data to the stamping service, the printer executable component being capable to use the print job data provided by the printer executable component to obtain stamps from the server that are to be applied to a set of electronic files and to break up the print job into multiple batches having a plurality of pages that together comprise the set of electronic files, the printer executable component being further capable to apply the stamps to pages of each batch and to download the pages having stamps applied thereon to either one or both the printer executable component and the printer while pages of other batches are being stamped.

18. The system of claim 17, further comprising a plurality of stamping services, each stamping service being capable to stamp pages of batches corresponding to a same print job.

19. The system of claim 17 wherein the printer executable component is capable to poll the stamping service to request pages that have been stamped, the stamping service being further capable to send the requested pages, which may comprise less than all pages in a batch.

20. The system of claim 17 wherein the stamping service is capable to provide print job updates to the server, wherein the printer executable component can

access the print job updates at the server to re-start the print job in case of interruption, at a batch subsequent to a batch that was last successfully printed, instead of a re-start of the print job from a first batch.

21. The system of claim 17 wherein the printer executable component operates asynchronously of client applications.

22. The system of claim 17, further comprising:
a first server unit to store indexed content of the electronic files;
a second server unit to store metadata content of the electronic files, the metadata content including stamps that can be obtained by the stamping service and applied to pages of the electronic files; and
a third server unit to store the pages of the electronic files, the stamping service being capable to obtain a temporary copy of the stored pages and to apply the stamps thereto.

23. The system of claim 17, further comprising a stamping data store in communication with the stamping service to store stamping statistics that can be provided by the stamping service.

24. The system of claim 17 wherein the server can request print preview information from the stamping service, the stamping service being capable to provide the preview information as a representation of a page having stamps applied thereto, the server being able to subsequently provide the preview information to the printer executable component.

25. The system of claim 17, further comprising at least another executable component, including a download executable component to control storage of stamped pages of batches to a storage unit.

26. The system of claim 17, further comprising a plurality of user interface usable to perform at least one of create a template having the stamps, assign Bates number formats to the electronic files, identify a print job, view print job status information, select a location to save the stamped pages, and select a printer to print the stamped pages.

27. The system of claim 17, further comprising another server to download the printer executable component to a client terminal if the printer executable component is not installed in the client terminal if the print job is initiated.

28. The system of claim 27 wherein the printer executable component is downloaded to be installed as part of a browser application on the client terminal.

29. A system, comprising:
a means for receiving a print job that requests to print a set of electronic document pages that are available from a communication network;
a means for breaking up the print job into a plurality of batches each having a plurality of electronic document pages that together comprise the set of electronic document pages;
a means for applying stamps to electronic document pages of each batch;
and
a means for separately sending each batch having stamps applied to its electronic document pages to a client terminal to print, while electronic document pages of other batches are having stamps applied to them.

30. The system of claim 29, further comprising:
a means for storing the electronic document pages and associated metadata, including template information having the stamps that can be applied to the electronic document pages;

a means for querying for and returning corresponding data results associated with stored electronic document pages that can be stamped;
a means for providing preview information of electronic document pages showing stamps applied thereto; and
a means for downloading executable files to the client terminal if the executable files are not yet installed in the client terminal when the print job is initiated.

31. The system of claim 29, further comprising a means for updating print job status information and for keeping stamping statistics.

32. The system of claim 29, further comprising means for downloading batches having stamped electronic document pages for purposes different from printing.

33. The system of claim 29, further comprising a means for polling to identify and obtain electronic document pages of a batch that have been stamped and that can be printed, wherein such electronic document pages comprise less than a full batch.

34. The system of claim 29, further comprising user interface means for creating templates and for initiating print jobs.